

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-16 (canceled)

Claim 17 (New): A method for making a two-phase solution in which a phase state change occurs in a temperature conversion reaction wherein a method for making a number (N) of samples react under the same conditions, wherein the samples have a solution where the phase state of the reaction solvent changes in a reversible manner between a two-phase solution state and a uniform solution state when the temperature fluctuates over or under a certain constant temperature, and the processes are carried out sequentially in the following steps: (A) heating a number of reaction containers simultaneously and maintaining the reaction containers at a predetermined temperature; (B) adding a sample in each heated reaction container and maintaining a two-phase solution at a predetermined temperature; (C) stirring the sample that has been heated to the predetermined temperature so as to gain a uniform solution, which is maintained for a predetermined period of time; (D) cooling the uniform solution without cooling the reaction container after the predetermined period of time and obtaining a two-phase solution within the reaction container, wherein a sequential operation is carried out such that the period of time (t_B) from the start of adding a sample to the start of stirring and the period of time (t_C) from the start of stirring to the start of the cooling is the same for all of the samples.

Claim 18 (New): The method according to Claim 1 wherein one phase of said two-phase solution comprises a cycloalkane compound and the other phase comprises one or more compounds selected from nitroalkanes, nitriles, alcohols, alkyl halides, ethers, ureas, amides and sulfoxides.

Claim 19 (New): The method according to Claim 17 wherein step (D) is carried out by drawing the uniform solution within the reaction container into a syringe with a cooling apparatus and cooling the uniform solution within the syringe, or putting a solid of which the temperature is lower than that of the reaction container into the uniform solution within the reaction container or mixing a compound having a low boiling point directly into the uniform solution within the reaction container.

Claim 20 (New): The method according to Claim 17 wherein step (B) is carried out on the first to Nth samples after said step (A), then step (C) is carried out on the first to Nth samples, and finally said step (D) is carried out on first to Nth samples.

Claim 21 (New): An apparatus for making a two-phase solution in which a phase state changes through a temperature conversion reaction comprising: a heater for heating a number of reaction containers simultaneously and maintaining the reaction containers at a predetermined temperature; a sampler for putting a sample into each reaction container, a stirrer for stirring the sample within the reaction container and a cooler for cooling the uniform solution within the reaction container without cooling the reaction container so as to obtain a two-phase solution within the reaction container, and a controller for controlling the time of the start of the operation to the end of the respective above operations.

Claim 22 (New): The apparatus according to Claim 21 wherein one phase of said two-phase solution comprises a cycloalkane compound and the other phase comprises one or more compounds selected from among nitroalkanes, nitriles, alcohols, alkyl halides, ethers, ureas, amides and sulfoxides.

Claim 23 (New): The apparatus according to Claim 21 wherein said cooler is a syringe having a cooling apparatus, a sampler for putting a solid of which the temperature is lower than that of the reaction container into the uniform solution or a stirrer for mixing the compound having a low boiling point directly into the uniform solution within the reaction container.

Claim 24 (New): A method for making a two-phase solution wherein the phase state change occurs through a temperature conversion reaction, comprising the step of stirring a material solution when the temperature fluctuates over or below a certain constant temperature within a reaction container at a predetermined temperature so wherein a uniform solution is obtained and reaction occurs and cooling the uniform solution without cooling the reaction container to obtain a two-phase solution within the reaction container.

Claim 25 (New): The method according to Claim 24, wherein during the cooling step a portion or the entire uniform solution is extracted from a reaction container, the extracted uniform solution is cooled and the two-phase solution obtained through cooling is recycled into reaction container.

Claim 26 (New): The method according to Claim 24 wherein the cooling step comprises adding a solid of which the temperature is lower than that of the reaction into the uniform solution within the reaction container.

Claim 27 (New): The method according to Claim 24 wherein the cooling step comprises mixing a compound having a lower boiling point directly into the uniform solution within the reaction container.

Claim 28 (New): The method according to Claim 24 further comprising extracting the product solution phase from the two-phase solution after said cooling step.

Claim 29 (New): The method according to Claim 28 wherein the solvent phase remains after the extraction of said product solution phase and is reused in the next reaction.

Claim 30 (New): The method according to Claim 24 wherein the two-phase solution stage of said reaction solvent, comprises one phase a cycloalkane compound and a second phase comprising one or more compounds selected from nitroalkanes, nitriles, alcohols, alkyl halides, carbonates, imidazolidinones, carbodiimides, esters, carboxylic acids, aldehydes, ketones, ethers, ureas, amides and sulfoxides.

Claim 31 (New): An apparatus for making a two-phase solution comprising a reaction container having a heater for heating the reaction container, a stimulator for physically stimulating a material solution within the reaction container and a cooling apparatus for cooling the uniform solution within the reaction container without cooling the reaction container.

Claim 32 (New): The apparatus according to Claim 31 wherein said cooling apparatus includes a means for extracting the uniform solution from the reaction container, a means for putting a solid of which the temperature is lower of that of the reaction container into the uniform solution within the reaction or a mixing means for mixing a compound having a lower boiling point directly into the uniform solution within the reaction container.